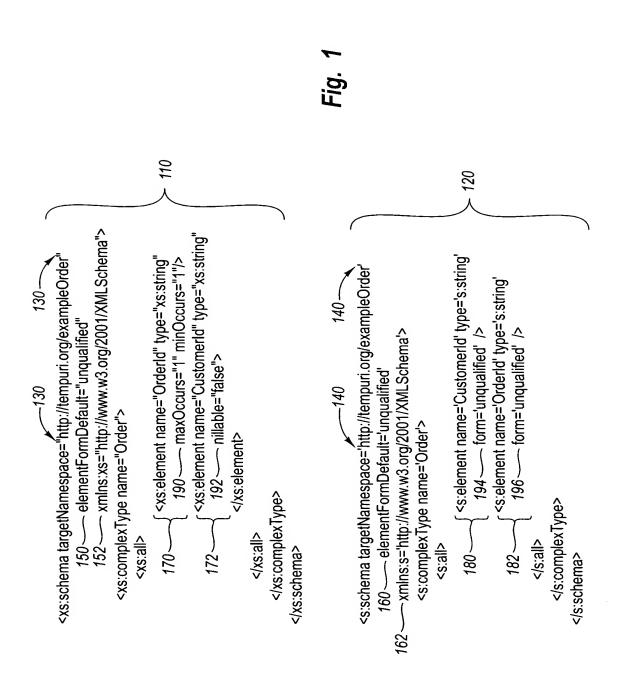Title: DETERMINING XML SCHEMA TYPE EQUIVALENCE
Inventors: Yasser Shohoud, Elena A. Kharitidi, and John Koropchak
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Fig. 1

110 — 130

```
<xs:schema targetNamespace="http://tempuri.org/exampleOrder"
150 —  elementFormDefault="unqualified"
152 —  xmlns:xs="http://www.w3.org/2001/XMLSchema">
<xs:complexType name="Order">
<xs:all>
170 {  <xs:element name="OrderId" type="xs:string"
190 —    maxOccurs="1" minOccurs="1"/>
172 {  <xs:element name="CustomerId" type="xs:string"
192 —    nillable="false">
       </xs:element>
     </xs:all>
   </xs:complexType>
</xs:schema>
```

120 — 140

```
<s:schema targetNamespace="http://tempuri.org/exampleOrder"
160 —  elementFormDefault="unqualified"
162 —  xmlns:s="http://www.w3.org/2001/XMLSchema">
<s:complexType name="Order">
<s:all>
180 {  <s:element name="CustomerId" type="s:string"
194 —    form="unqualified" />
182 {  <s:element name="OrderId" type="s:string"
196 —    form="unqualified" />
     </s:all>
   </s:complexType>
</s:schema>
```
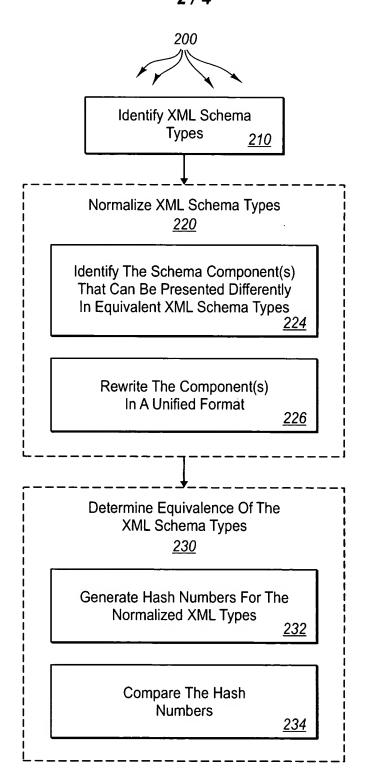
Title: DETERMINING XML SCHEMA TYPE EQUIVALENCE
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Identify XML Schema
Types   <u>210</u>

Normalize XML Schema Types
<u>220</u>

Identify The Schema Component(s)
That Can Be Presented Differently
In Equivalent XML Schema Types
<u>224</u>

Rewrite The Component(s)
In A Unified Format
<u>226</u>

Determine Equivalence Of The
XML Schema Types
<u>230</u>

Generate Hash Numbers For The
Normalized XML Types
<u>232</u>

Compare The Hash
Numbers
<u>234</u>

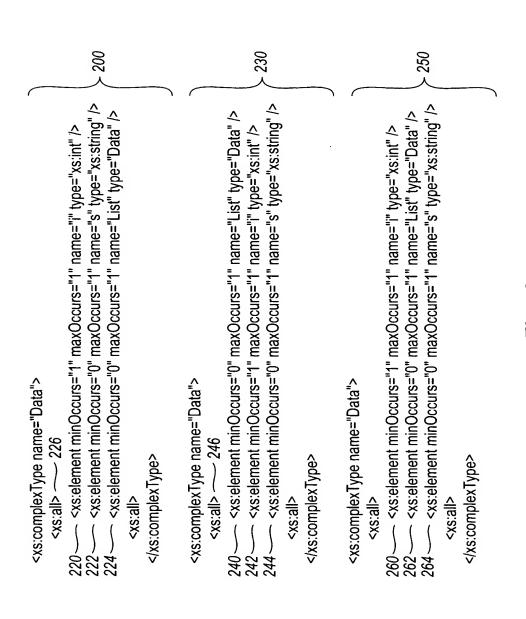*Fig. 2*

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```
<xs:complexType name="Data">
    <xs:all>  ——— 226
220 —— <xs:element minOccurs="1" maxOccurs="1" name="i" type="xs:int" />
222 —— <xs:element minOccurs="0" maxOccurs="1" name="s" type="xs:string" />
224 —— <xs:element minOccurs="0" maxOccurs="1" name="List" type="Data" />
    </xs:all>
</xs:complexType>
```
⎫
⎬ 200
⎭

```
<xs:complexType name="Data">
    <xs:all>  ——— 246
240 —— <xs:element minOccurs="0" maxOccurs="1" name="List" type="Data" />
242 —— <xs:element minOccurs="1" maxOccurs="1" name="i" type="xs:int" />
244 —— <xs:element minOccurs="0" maxOccurs="1" name="s" type="xs:string" />
    </xs:all>
</xs:complexType>
```
⎫
⎬ 230
⎭

```
<xs:complexType name="Data">
    <xs:all>
260 —— <xs:element minOccurs="1" maxOccurs="1" name="i" type="xs:int" />
262 —— <xs:element minOccurs="0" maxOccurs="1" name="List" type="Data" />
264 —— <xs:element minOccurs="0" maxOccurs="1" name="s" type="xs:string" />
    </xs:all>
</xs:complexType>
```
⎫
⎬ 250
⎭

Fig. 3

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Fig. 4